

NOTES AND EXTRACTS.

WEATHER BUREAU MEN AS INSTRUCTORS.

Mr. Norman B. Conger, Inspector, Weather Bureau, reports a short address by himself on Weather Bureau warnings and their use, delivered in Detroit, Mich., November 30, under the auspices of the Educational Committee of the North Woodward Methodist Church.

Mr. Weston M. Fulton, Local Forecaster at Knoxville, Tenn., delivered an illustrated lecture on meteorology in the auditorium at Chattanooga, Tenn., on December 23. Mr. L. M. Pindell, Observer in charge at Chattanooga, was successful in arousing the enthusiastic support of the business men and public-spirited citizens of Chattanooga, who guaranteed to bear all the expense of this free lecture for the benefit of the community at large. In accordance with the general policy of the Department of Agriculture, Mr. Fulton was granted leave of absence from his station for the purpose of delivering the lecture. Mr. Pindell has established a department of meteorology as one of the courses of education in the high school, which is proving very popular. A library of 75 volumes on meteorology has been provided and money for the purchase of instruments has been raised by popular subscription.

Mr. Frank P. Chaffee, Section Director at Montgomery, Ala., reports that he lectured in that city on November 18 before 4 teachers and 120 pupils of the Girl's High School. The lecture, which was on "The Atmosphere, its Elements and Movements, with Particular Attention to the Laws of Storms," was illustrated with blackboard drawings and printed climatic charts.

As a result of the lecture, the weather maps issued by his office will be taken up as a regular class study in connection with that of physical geography.

CLIMATOLOGY OF CALIFORNIA.

Under the above title the Weather Bureau has published a memoir by Prof. Alexander G. McAdie, to be known as Bulletin L, of the quarto series, or W. B. No. 292. Besides the large amount of material compiled by himself, a number of special chapters have been written by Weather Bureau officials, e. g.: The climate of Los Angeles, by Mr. George E. Franklin; Sacramento, by Mr. James A. Barwick; San Diego, by Mr. Ford A. Carpenter; Red Bluff, by Mr. Maurice Connell; Eureka, by Mr. Aaron H. Bell; Fresno, by Mr. J. P. Bolton; San Luis Obispo, by Mr. J. R. Williams; Independence, by Mr. J. J. McLean. A number of other acknowledgments are made, among them the contribution of the Rainfall Data at High Stations, by Mr. J. B. Lippincott, Hydrographer of the United States Geological Survey. In his opening chapter Professor McAdie enumerates the four controlling factors on which the climate of California depends:

1. The locations and changes of both the permanent areas of high and low pressure and the smaller individual areas of pressure.
2. The prevailing drift of the atmosphere from west to east.
3. The proximity of the Pacific Ocean, considered as a natural reservoir of heat.
4. The exceedingly diversified topography for a distance of 200 miles east of the coast line.

Under these heads a considerable amount of data is given. The corrected table of altitudes and locations of all summits exceeding a thousand meters in altitude will doubtless often be referred to. The chapters relating to the climate of the north and central coast, the southern coast, the Great Valley,

and the Santa Clara Valley consist essentially of tabular data, showing the mean temperature, the minimum and maximum temperatures, and the rainfall, and in some cases all the other climatological data, month by month, for each year since the beginning of meteorological records. Similar tables are then given for individual stations in the section of local climatology. The last page of this section is devoted to the minimum winter temperatures recorded on the summit of Mount Lyell (13,041 feet altitude). On July 8, 1897, a minimum thermometer was left upon the summit, inclosed in a thin wooden box about 6 inches square and 2 feet long. This was visited on June 5, 1898, and again in July, 1899. The minimum readings were -13.6°F. , or -25.3°C. , for the winter of 1897-8, and -17.6°F. , or -27.6°C. , for the winter of 1898-9. Professor McAdie compares those with the corresponding minimum temperatures observed at Bodie, a few miles to the east and at an elevation of 8248 feet, where the minimum temperatures were -24°F. and -30°F.

The third section of Bulletin L, or pages 168-213, consists entirely of tables of monthly and annual precipitation. One hundred and thirty-three stations are included in this collection, which are additional to those printed in the previous part of the book. We think the students of climatology will regret that in these and similar tables, the observations by different observers at neighboring localities, with different instruments, are combined together into one continuous series without any indication as to where the individual component series begin and end, thus preventing any attempt at reducing the components to a homogeneous system. The next portion of the volume, pages 215-255 is devoted to snowfall, frosts, and fog. The snowfall is given for each month for the years 1878-1900 for 4 stations, Boca, Emigrant Gap, Summit, and Truckee, and for many other stations for shorter periods. The very heavy snowfall recorded for the winter months shows that a slightly higher elevation would almost certainly give rise to a permanent glaciation of the summits of this portion of the Sierras. The article on fog is illustrated by a number of striking photographs of cloud and fog views that Professor McAdie succeeded in taking from the summit of Mount Tamalpais. The volume concludes with short chapters on the thunderstorms and earthquakes recorded in California. It seems that though lightning is rare in California lowlands, yet is common enough on the Sierras. The whole volume of 270 pages must be recognized as a valuable collection of data and a monument to the intellectual activity of Professor McAdie and his staff of collaborators.

PROPOSED PILOT CHARTS OF THE SOUTH ATLANTIC AND OF THE SOUTH PACIFIC OCEANS.

According to a notice published on the Pilot Chart for January, 1904, the United States Hydrographic Office has in view the publication of meteorological charts of the South Atlantic and of the South Pacific oceans, similar in scope to the present monthly Pilot Charts of the North Atlantic and North Pacific oceans.

The proposed charts will be published quarterly instead of monthly, the first to appear being the chart of the South Atlantic Ocean for its winter months of 1904. It is hoped to have this ready for distribution June 1, 1904.

Successive seasonal charts of the South Atlantic Ocean will appear at quarterly intervals until the entire year has been included, after which a like series will be taken up for the South Pacific Ocean.

The United States Hydrographic Office earnestly requests the cooperation of mariners navigating these waters in the preparation of these charts. The assistance of masters of sailing